IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES
(Attorney Docket No. 14180US02)

In the Application of:

Ed H. Frank, et al.

Serial № 10/658,725

Filed: September 9, 2003

For: METHOD AND SYSTEM FOR PROVIDING AN INTELLIGENT SWITCH FOR BANDWIDTH MANAGEMENT IN A HYBRID WIRED/WIRELESS LOCAL AREA NETWORK

Examiner: Michael Thier

Group Art Unit: 2617

Confirmation № 2800

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REPLY BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
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Sir:

This Reply Brief responds to the Examiner's Answer mailed on December 7, 2010. Claims 1-25 are pending in the present application. This Reply Brief is timely filed within the period for reply, which ends on February 7, 2011.

REMARKS

The Appellant will now address certain issues raised in the "Response to Arguments" section of the Answer.

A. Independent Claims 1, 9 and 17

In addressing the Appellant's arguments regarding independent claims 1, 9 and 17, the Examiner states as follows:

> The Examiner responds as follows regarding Appellant's argument that Choksi, Sundar, and Dokko do not disclose "...notifying said first access point of said allocated bandwidth using at least a second messaging protocol message..." (Appeal Brief, page 7, heading A.) Further, Appellant states that Sundar is not at all concerned with bandwidth capabilities, nor does he disclose providing a notification to an access point of allocated bandwidth. (Appeal Brief page 9):
>
> In response to the Appellant's argument, the examiner would like to note that it was previously shown in the rejection that Choksi discloses the allocating bandwidth to accommodate said communication session and allowance of call admission requests, but failed to specifically disclose the idea of notifying the first access point of the connection. Sundar was simply combined to show the obviousness of notifying a first access point of a connection in a hybrid wired/wireless LAN. Sundar discloses that during a call connection setup, initiated by, for example, a handoff scenario, the serving BSC informs the desired BSC of the desire to handoff, and once the operation is the complete, acknowledgements are returned to the initiating parties. Therefore, the examiner understands the acknowledgement that would be returned from the new BSC to the serving BSC to read on the idea of notifying the first access point of a communication session. He does not specifically disclose the idea of notifying of the allocated bandwidth, however, Dokko teaches the idea of determining available bandwidth, and thus one of ordinary skill in the art at the time of invention would have seen it obvious to combine the teachings of the references to arrive at the idea of notifying of the allocated bandwidth (i.e. thus

> notifying of a new communication session) in order to provide users with necessary bandwidth to complete their communications and control a network so that it's bandwidth capabilities are not exceeded.

(Answer, pp. 9.) The Appellant disagrees with the Examiner's analysis and maintains that the Examiner has failed to establish a *prima facie* case of obviousness. According to the Examiner, "Choksi discloses the allocating bandwidth to accommodate said communication session and allowance of call admission requests, **but failed to specifically disclose the idea of notifying the first access point of the connection**." In an attempt to make up for this admitted deficiency of Choksi, the Examiner turns to Sundar. The Examiner attempts to justify the combination of Sundar and Choksi as follows:

> Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Sundar with the teachings as in Choksi in order to provide users with necessary bandwidth to complete their communications and control a network so that it's bandwidth capabilities are not exceeded.

(Final Office Action, pp. 6-7.) This conclusory sentence is the entire extent of the Examiner's justification for alleging that it would be obvious to combine Sundar and Choksi. In particular, the Examiner alleges that such a modification would prevent the network's bandwidth capabilities from being exceeded. However, Choksi already accomplishes this function without notifying the requesting entity of the connection. There simply is no disclosure or suggestion in Choksi that such notification is needed or even desirable. Nor, as noted above, does the Examiner provide adequate justification for modifying Choksi in this manner. Instead, the Examiner appears to be basing this

proposed combination on improper hindsight in an attempt to arrive at the Appellant's claimed invention.

Hence, it is respectfully submitted that the Examiner has not established a *prima facie* case of obviousness and the Board should withdraw the rejection of claims 1, 9 and 17.

Next, the Examiner states as follows with regard to the rejection of claims 1, 9 and 17:

> The Examiner responds as follows regarding Appellant's argument that Choksi, Sundar, and Dokko do not disclose or suggest receiving from a first access point or a first switch, at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless LAN. (Appeal Brief, page 11, last full paragraph):
>
> In response to Appellant's arguments, the examiner respectfully disagrees. The claims were rejected using the combination of references, where Choksi was explained to teach the idea of receiving a first message protocol message, which can clearly be interpreted as the call admission request. Sundar was provided next to show the idea of a call connection management system for hybrid wired/wireless (WWAN and WLAN) that notifies the first access point of the connection. The examiner then asserted that Dokko teaches the idea of a data call connection request received from a call processing unit in the mobile switching system, which reads on the claimed first messaging protocol message for establishing a communication session received from at least one of a first access point and a first switch. Although, Dokko does not teach this communication session is within a hybrid wired/wireless local area network, this idea was clearly shown in the Sundar reference in the rejection and therefore, the combination of references clearly teaches the argued limitation and would have been obvious to one of ordinary skill in the art at the time of invention.

> The Examiner responds as follows regarding Appellant's argument that Dokko's call set up request inputted from a mobile subscriber is clearly neither a messaging protocol message, nor it is received from at least one of a first access point or a first switch. (Appeal Brief page 14):
>
> In response to Appellant's arguments, the examiner respectfully disagrees. **Dokko clearly teaches the idea of receiving from a first access point or switch, a first messaging protocol message for establishing a communication session when he explains that a call connection request is received from the call processing unit 11 in column 4 lines 29-30 (i.e. which the call processing unit 11 is a part of the mobile switching system, and thus a connection request received from a first switch or access point)**. The examiner notes that the message may first be initiated at a mobile subscriber, as argued by Appellant, however**, it is clear from column 4 lines 28-33 that a connection request is received from a first switch since he clearly states "Upon receiving the data call connection request from the call processing unit 11..." (i.e. where the call processing unit 11 is a part of the mobile switching system),** and thus can be read on the claims as worded where the first messaging protocol message is received from a first switch (i.e. mobile switching system).

(Answer, p. 10-11.) Appellant disagrees with the Examiner's analysis of Dokko. In context, the passage of Dokko that is cited above reads as follows:

> Upon receiving the data call connection request from the call processing unit 11 (Step S41), the frame relay converting unit 12 allocates an available time slot for the requested data call, and determines a required/requested bandwidth based on the service option of the corresponding data call (Steps S42, S43).

(Dokko, 4:28-34.) As shown in Figure 1 of Dokko, the call processing unit 11 and the frame relay converting unit 12 **are both part of the mobile switching system 10** (which the Examiner equates to the first switch of claim 1). Dokko does not disclose or suggest that the data call connection request from the call processing unit 11 is ever

transmitted outside of the mobile switching system 10. Instead, it is merely transmitted to the frame relay converting unit 12, which itself is part of the switch 10. Hence, the data call connection request is not "received from a switch," as the Examiner alleges.

Hence, the Appellant maintains that the proposed combination of references fails to disclose or suggest "receiving from at least one of a first access point and a first switch, at least a first messaging protocol message for establishing a communication session within the hybrid wired/wireless local area network," as required by claim 1.

Accordingly, for the reasons set forth above and in the Appeal Brief, the proposed combination of Choksi, Sundar, and Dokko does not render independent claim 1 unpatentable, and a *prima facie* case of obviousness has not been established.

Independent claims 9 and 17 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Appellant submits that independent claims 9 and 17 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 1.

B. Claims 2, 10 and 18

The Examiner states as follows regarding the rejection of dependent claims 2, 10 and 18:

> The Examiner responds as follows regarding Appellant's argument that the proposed combination does not disclose or suggest, wherein said receiving comprises receiving said at least a first messaging protocol message by at least one of a second switch and a second access point:
>
> In response to Appellant's arguments, the examiner respectfully disagrees. In par. 74 of Sundar, he clearly recites that the source MSC issues a facility directive to the target MSC, and thus clearly reads on a first messaging

> protocol message being received by a second switch or second access point.

(Answer, p. 12.) The Examiner apparently contends that Sundar discloses that the serving WLAN MSC 302 informs the desired WWAN BSC 304 of the handoff requests. This is incorrect. The passage of Sundar that is cited by the Examiner reads as follows:

> The logic starts at 1200 and proceeds to 1202 in which the mobile station 310 informs the WLAN serving MSC (Source MSC) 302 that a handoff is required. . . . The source MSC 302 issues [at step] 1204 a facility directive (FD) to the WWAN MSC (Target MSC) 110 that allows it open a bearer channel on PSTN 112 (for example) from Source MSC 302 to Target MSC 110. . . . The Target MSC 110 sends [at step] 1206 a handoff request to the (Target) BSC 106. The Target BSC 106 commences [at step] 1208 RF channel signaling with the mobile station 310. The Target BSC 106 sends 1210 handoff request acknowledgement to Target MSC 110. The Target MSC 110 responds [at step] 1212 to the facility directive request back to the Source MSC.

(Sundar, ¶ 0074.) Hence, Sundar discloses that serving WLAN MSC 302 issues a facilities directive to the target WWAN MSC 110 to open a bearer channel. It does not, however, disclose that the "WLAN MSC 302 informs the desired WWAN BSC of the handoff requests," as alleged by the Examiner. Rather, the only mention of sending handoff requests is between the mobile station and the WLAN MSC 302 in step 1202, and between the WWAN MSC 110 and that target WWAN BSC 106 in step 1206. Thus, Sundar fails to disclose or suggest "wherein said receiving comprises receiving said at least a first messaging protocol message by at least one of a second switch and a second access point," as recited by the Appellant in claim 2.

Accordingly, claim 2 is patentable over the proposed combination of Choksi, Sundar, and Dokko for the reasons set forth above and in the Appeal Brief.

Claims 10 and 18 are similar in relevant respects to the method disclosed in claim 2. Therefore, the Appellant submits that claims 10 and 18 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 2.

C. Claims 3, 11 and 19

The Examiner states as follows regarding the rejection of dependent claims 3, 11 and 19:

> The Examiner responds as follows regarding Appellant's argument that the proposed combination does not disclose or suggest, requesting bandwidth usage information from at least one of said first access point and said first switch using said at least first protocol message:
>
> In response to Appellant's arguments, the examiner respectfully disagrees. Choksi teaches in column 7 lines 42-48 the idea that bandwidth usage may be passed to the bandwidth allocation controller from the BTSs. Thus, one of ordinary skill in the art would have found it obvious that bandwidth usage could be passed based on a request. Although Choksi does not specifically recite the bandwidth usage is requested, he does recite it is passed to the bandwidth allocation controller, and a simple request for the passage of the data would have been obvious to one of ordinary skill in the art at the time of invention.

(Answer, p. 13.) Appellant disagrees with the Examiner's analysis. As was noted in the Appeal Brief, and as the Examiner apparently concedes, Choksi merely discloses that "bandwidth usage may be updated by the BTSs 30 and passed to the bandwidth allocation controller 70." Choksi does not, however, **disclose or suggest** "requesting bandwidth usage information from at least one of said first access point and said first switch using said at least a first messaging protocol message," as recited by the Appellant in claim 3. The Examiner apparently acknowledges this, but nevertheless

contends, "one of ordinary skill in the art would have found it obvious that bandwidth usage could be passed based on a request." The Examiner provides no justification for this allegation and again appears to be basing the proposed modification on improper hindsight.

Accordingly, the Appellant maintains that claims 3, 11 and 19 are patentable for the reasons set forth above and in the Appeal Brief.

D. Claims 4, 12 and 20

The Examiner states as follows regarding the rejection of dependent claims 4, 12 and 20:

> The Examiner responds as follows regarding Appellant's argument that the proposed combination does not disclose de-allocating said allocated bandwidth using at least a third messaging protocol message subsequent to termination of said established communication session:
>
> In response to Appellant's arguments, the examiner respectfully disagrees. Sundar teaches in par. 74 that the Target MSC (i.e. thus the second switch) sends a message indicating that the mobile is on channel with the target BSC. This message takes place after handoff is complete and causes a message to be sent indicating that any resources assigned may be cleared, thus reading on de-allocating said allocated bandwidth, since any used resources (i.e. bandwidth), is thus cleared.

(Answer, p. 13.) Appellant disagrees with the Examiner's analysis. Specifically, to the extent this passage of Sundar can be fairly read as disclosing de-allocating bandwidth (which the Appellant does not concede), it refers to **de-allocating bandwidth in the WLAN network that was being used by the mobile station 310 before it was handed off to the WWAN**. By contrast, claim 4 requires **de-allocating said allocated bandwidth . . . subsequent to termination of said established communication**

session." In other words, the bandwidth that is de-allocated in claim 4 is the bandwidth that was allocated when the communication session was established in claim 1.

Accordingly, the Appellant maintains that claims 4, 12 and 20 are patentable for the reasons set forth above and in the Appeal Brief.

E. Claims 5, 13 and 21

The Examiner states as follows regarding the rejection of dependent claims 5, 13 and 21:

> The Examiner responds as follows regarding Appellant's argument that the proposed combination does not disclose or suggest sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and said first access point:
>
> In response to Appellant's arguments, the examiner respectfully disagrees. Sundar teaches in par. 74 that the target MSC (i.e. thus the second switch) sends a message indicating that the mobile is on channel with the target BSC to the source MSC (i.e. first switch). This message reads on the third messaging protocol sent from at least one of the second switch and access point to at least one of the firsts switch and access point since it tells the source that the mobile is on a channel with the target and thus the source can then clear any resources assigned.

(Answer, p. 14.) The Appellant disagrees with the Examiner's analysis. Sundar discloses that the "**Source MSC 302 sends a message to the mobile station 310** indicating that it may clear any resources assigned this transaction." (Sundar, ¶ 0074 and Fig. 12, Step 1228.) Hence, although Sundar discloses sending a message from the Source MSC 302 to the mobile station 310 to clear resources, it does not disclose or suggest "sending said at least a third messaging protocol message from at least one of said second switch and said second access point to at least one of said first switch and

said first access point," where the third message is used for "de-allocating said allocated bandwidth . . . subsequent to termination of said established communication session," as required by claim 5.

Accordingly, claims 5, 13 and 21 are patentable for the above reasons and the reasons set forth in the Appeal Brief.

CONCLUSION

For at least the foregoing reasons, the Appellant submits that claims 1-25 are in condition for allowance. Reversal of the Examiner's rejection and issuance of a patent on the application are therefore requested.

The Commissioner is hereby authorized to charge any fees or credit any overpayment in connection with this filing to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Respectfully submitted,

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